REMARKS

Claims 1-3, 5, 7, 9, 11, and 14 are pending. By this response, claims 1 and 14 are amended and claims 2, 4, 6, 8, 10, and 12 are canceled. Reconsideration and allowance based on the above amendments and following remarks are respectfully requested.

Claims 1-14 stand rejected under 35 U.S.C. §103(a) in view of Odaka (US 5,317,397) and Lee (US 5,592,226). This rejection is respectfully traversed.

Claim 1 recites, *inter alia*, wherein said encoding control means initially sets the quantizer step size for a macroblock to be encoded first in said each picture currently being encoded to the target quantizer step size set for the picture type of said each picture currently being encoded, and then, each time it encodes each of macroblocks remaining in said each picture currently being encoded, updates the quantizer step size initially set for the first macroblock so that the average of the quantizer step sizes used during the encoding of all macroblocks in said each picture finally approaches the target quantizer step size set for the picture type of said each picture currently being encoded.

In the Office Action, it is alleged that features of claim 2 (now part of independent claim 1) are taught by Odaka.

The Examiner relies upon column 22, line 58 to column 23, line 5, to teach these features. This portion of the Odaka reference describes:

> "In this embodiment, an estimation amount called an activity is calculated by the activity calculator 716, as described above, and this estimation amount is used for rate control. The activity of the I picture is the sum total of the absolute values of values obtained by subtracting an average value in a block from the respective pixel values. The activity of each of pictures of the

other types is the sum total of the absolute values of OCT coefficients of motion compensation adaptive predictive error signals obtained through the subtractor 702 and the OCT circuit 703. The activity of the I picture is calculated one field before coding. The activities of the other pictures are calculated in coding. The rate control of a given picture is performed by using the activity of the same type of picture coded immediately before the current picture."

Further, In column 25, line 18 to column 26, line 28, the Odaka reference describes the ratio of the quantization step size between different types of pictures is updated on the basis of a predetermined relationship.

However, the feature of updating the quantizer step size initially set for the first macroblock so that the average of the quantizer step sizes used during the encoding of all macroblocks in said each picture finally approaches the target quantizer step size set for the picture type of said each picture currently being encoded, of claim 2 in the present invention is not taught or suggested in the Odaka reference, and the other prior art references. At best Odaka teaches that a ratio of the quantization step size between different picture types is updated, but not updating the quantizer step size initially set so that the average of the quantizer step sizes used during encoding of all macroblocks approaches the target quantizer step size.

Furthermore, Claim 1 recites, *inter alia*, said control operation not being totally depending on the allocation of quantity of the target amount of codes based on the global complexity measure for each of the picture, but in accordance with features of the sequence of moving pictures which represent a degree of complexity of the sequence of moving pictures to be encoded,

Claim 14 recites, *inter alia*, when said unit group includes a picture to be intra-coded or an I-picture, a picture to be predictive-coded or a P-picture, and a picture to be bidirectionally- predictive-coded or a B-picture, said encoding control means extracts the feature of said sequence of moving pictures which represents a degree of complexity of said sequence of moving pictures to be encoded.

In embodiments of the present invention the determination of the image complexity of a sequence of moving pictures can be carried out using an intraframe variance, more specifically, the summation of the absolute values of the differences between all the pixel values, and the average of them, the summation of the squares of the differences between all the pixel values, and the average of them, or the like. The combination of Odaka and Lee fail to teach the use of the degree of complexity of the image sequence in any determination.

Thus, in view of the above, Applicants respectfully submit that the combination of Odaka and Lee fail to teach each and every feature of Applicants independent claim 1 as required. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Conclusion

For at least the above reasons Applicants respectfully submit claims 1-3, 5, 7, 9, 11 and 14 are distinguishable over the cited art. Favorable consideration and prompt allowance are earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad J. Billings Reg. No. 48,917 at the telephone number of the undersigned below, to

conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Dated: April 23, 2009

Respectfully submitted,

By 

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